

REMARKS

Upon entry of this Amendment, claims 1-3 and 6-28 will be pending in the present application. Claims 6-13 were previously withdrawn from consideration. Claims 1, 15 and 20 are herein amended. Claims 4 and 5 are herein cancelled. New claims 25-28 are herein added. No new matter has been entered. It is respectfully submitted that this Amendment is fully responsive to the Office Action dated February 14, 2007.

Claim Rejections - 35 U.S.C. §103

Claims 1-5 and 14-24 were rejected under 35 U.S.C. §103(a) as unpatentable over *Kim et al.* (U.S. Patent No. 6,274,906, hereinafter "the '906 reference").

For at least the reasons discussed below, Applicants submit that the Examiner has failed to present a *prima facie* case of obviousness. However, to expedite prosecution and clarify the subject matter of the present invention, Applicants hereby amend claims 1, 15 and 20 and cancel claims 4 and 5. In view of these amendments and the following remarks, Applicants request that the Examiner withdraw the obviousness rejection of the pending claims.

When evaluating a claim for determining obviousness, all features of the claim must be considered. Here, the cited reference fails to teach or suggest all of the features of the claims; especially *a first impurity-diffused region formed, as being **aligned** with said gate, in the surficial layer of said semiconductor region.* See claims 1, 15 and 25 (emphasis added.) The plain and ordinary meaning of aligned is to "arrange...in a straight line." *The Random House College Dictionary*, page 34 (1988). However, as clearly illustrated in the figures and described

in the *Kim et al.* reference, the LDD 22 region is NOT “aligned with said gate (14)” as described in the claims. For example, the *Kim et al.* specification describes that “region 22 and the gate poly 14 are allowed to overlap one another as shown.” See Fig. 1 and col. 4, lines 30-37. Furthermore, the reference explains that the “LDD region 22 can be formed by an ion implementation...and an inclination angle of 7-45 degrees.” See Fig. 5 and col. 3, lines 46-65. Thus, it is clear that *Kim et al.* does not describe *a first impurity-diffused region formed, as being aligned with said gate, in the surficial layer of said semiconductor region.* Accordingly, for at least this reason, Applicants request that the Examiner withdraw the obviousness rejections of the pending claims.

In addition, Applicants submit that cited reference also fails to teach or suggest a “diffusion suppressive element” as described in proposed claims 1, 15 and 25 of the present invention. As explained above, claims 1 and 15 are herein amended and claim 25 is herein added.

Claims 1 and 15 are amended to recite that *said diffusion suppressive element is at least any one element selected from germanium, nitrogen, fluorine and carbon for the case where said impurity contained in said first and third impurity-diffused regions is an n-type impurity.* To expedite prosecution and clarify the subject matter of the present invention, Applicants deleted “arsenic” from the above list of elements. Applicants submit that *Kim et al.* does not disclose or suggest a second impurity diffused region including any of the elements listed in claims 1 and 15.

Claim 25 is added and combines the following feature with features included in the previously presented claim 1: *said diffusion suppressive element is at least any one element*

selected from germanium, nitrogen, fluorine, and carbon for the case where said impurity contained in said first and third impurity-diffused regions is a p-type impurity. To expedite prosecution and clarify the subject matter of the present invention, Applicants deleted “indium” from the above list of elements. Similarly, claim 20 is amended to delete “indium” from the list of elements. Applicants submit that *Kim et al.* does not disclose or suggest a second impurity diffused region including any of the elements listed in claims 20 and 25.

Therefore, for at least these reasons, Applicants request that the Examiner withdraw the obviousness rejections of the pending claims. Below are additional reasons supporting Applicant’s traversal of the obviousness rejection of the pending claims.

Kim et al. describes that in the case when a pMOS transistor is used, the LDD 22, the MDD 24 and the source/drain region 28 are all formed by a P-type impurity, and in the case when an nMOS transistor is used, the LDD 22, the MDD 24 and the source/drain region 28 are all formed by an N-type impurity. *Kim et al.* describes an example of the impurity of the MDD 24, in the case when the pMOS transistor is used, the impurity can be **In** or BF₂, and in the case when the nMOS transistor is used, the impurity can be **As** or Sb. Thus, the *Kim et al.* reference supports Applicants position, because even if MDD 24 does contain a diffusion suppressive element (which we disagree with), then it does not contain one selected from the groups recited in the claims.

Moreover, unlike *Kim et al.*, the second impurity-diffused region in the present invention is formed as containing a diffusion suppressive element between the first impurity-diffused

region formed shallowly (Extension(LDD region)) and the third impurity-diffused region formed deeply (Source/drain region) so as to keep their edges distant from each other, and thereby suppress the lateral diffusion of the impurity from the third impurity-diffused region to the first impurity-diffused region. In *Kim et al.*, the portion of the source/drain region 28 makes three-layer construction with the use of the impurity having the **same conductivity type**, and therefore, as stipulated, the MDD 24 is formed by the impurity having the same conductivity type as the LDD 22 and the source/drain region 28. In other words, the impurity applied to the MDD 24 is only the impurity contributing to P-type or N-type, and is **not** “the diffusion suppressive element” like the second impurity-diffused region described in the present invention. Furthermore, *Kim et al.* does not disclose any explanations referencing “the diffusion suppressive element.”

Accordingly, in view of the remarks above Applicants request that the Examiner withdraw the obviousness rejection of the pending claims.

Conclusion

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

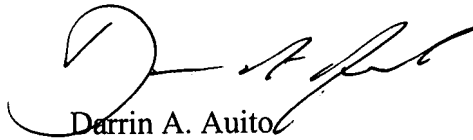
If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants’ undersigned attorney to arrange for an interview to expedite the disposition of this case.

Application No. 10/800,749
Attorney Docket No.: 042193
Amendment Filed: June 14, 2007

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP

A handwritten signature in black ink, appearing to read 'Darrin A. Auito', is written over the printed name.

Darrin A. Auito
Attorney for Applicants
Registration No. 56,024
Telephone: (202) 822-1100
Facsimile: (202) 822-1111

DAA/rf